June 19, 2001

Mr. Chris Koszewski
Alcan Rolled Products
PO Box 1067
Terre Haute, Indiana 47808

Re: 167-12146-00001
Significant Source Modification to:
Part 70 permit No.: T167-5988-00001

Dear Mr. Koszewski,

Alcan Rolled Products was issued Part 70 operating permit T167-5988-00001 on June 30, 1999 for production equipment to reduce aluminum rolls into finished foil products. An updated application to modify the source was received on November 30, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) Rolling mill #16 (being reactivated and modified after an extended shutdown), with a maximum capacity of 52,000 pounds of aluminum sheet per hour (capable of doubling operations), using a mist eliminator for control, and exhausting to stack 003.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (812) 462-3433, and ask for Rob Harmon or extension 14.

Sincerely,

George M. Needham
Director
Vigo County Air Pollution Control

Attachments
RKH
cc: Mindy Hahn - IDEM-OAQ, Permit Branch
Winter Bottum - IDEM-OAQ

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Rolling mill #16 (being reactivated and modified after an extended shutdown), with a maximum capacity of 52,000 pounds of aluminum sheet per hour (capable of doubling operations), using a mist eliminator for control, and exhausting to stack 003.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Net Emission Reduction

D.3.1 Removal of Emission Sources

Mill #15 must be permanently removed from service (prior to full time operation of Mill #16) in order to provide necessary emission credits to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. The full time operation does not include a shakedown period for the new unit. This shakedown period shall not exceed six (6) months. During this shakedown period Mill #15 and Mill #16 shall not operate more than a combined 168 hours per week (starting on the first day of the shakedown period. This limitation is needed because Alcan is relying on the emission reduction from Mill #15 in order to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. This limitation effectively limits the total emissions because the new Mill #16 is larger than the old Mill #15.

D.3.2 Raw Material Change

Existing Mill #20 shall be permanently converted from utilizing mineral spirits as the raw material for the "doubling process" to utilizing Norpar 13 (or equivalent) for that purpose prior to any operation of Mill #16. This change provides necessary emission credits to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.3 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from Mill #16 shall not exceed 36.4 pounds per hour.

The pounds per hour limitation was calculated using a process weight rate of 52,000 pounds per hour and the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where **E** = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.4 Particulate Matter (PM and PM10)

The determination that this approval did not trigger a Prevention of Significant Deterioration (PSD) review was made using specific estimates of both PM and PM10 emission rates. In order for that determination to remain valid, the emissions must remain at or below those estimated rates. Therefore, the emissions are limited as follows:

The PM emissions shall not exceed 6.0 tons per year.

The PM10 emissions (including both filterable and condensible particulate matter (PM10)) shall not exceed 19.2 tons per year.

D.3.5 VOC Emissions (326 IAC 8-1-6)

Pursuant to 326 IAC 8-1-6, this facility shall install and operate BACT for VOC emissions. In this case BACT has been determined to be a combination of utilizing a low volatility oil (Norpar 13 or equivalent) and a control device (mist eliminator - controlling droplet phase VOC mist (PM) emissions (down to 1 micron) by 75%).

D.3.6 Operating Hours

The Permittee shall limit the operation of rolling mill #16 to no more than 8000 hours per 12 consecutive month period, rolled monthly.

D.3.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and control devices.

Compliance Determination Requirements

D.3.8 Testing Requirements [326 IAC 3-6]

The Permittee shall perform PM, PM-10, and VOC testing on the Mist Elimination system outlet, utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A and 202 (40 CFR 51, Appendix M) for PM-10, or other methods as approved by the Commissioner. The Permittee shall also perform droplet phase VOC (PM) testing on both the inlet and outlet of the mist eliminator. The testing shall be completed within sixty (60) days of achieving maximum production rates, but not more than one hundred eighty (180) days after initial operation. The PM10 and total VOC testing is not intended for compliance purposes, it is to verify the accuracy of the emission estimates upon which this approval was based. Therefore, the test does not have to be repeated every five years. PM-10 includes filterable and condensible PM-10. The droplet VOC (PM) collection efficiency is a requirement of the BACT determination and it must be completed at least once every 5 years. In addition to these requirements, IDEM and VCAPC may require compliance testing when necessary to determine if the emissions unit is in compliance.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.9 Particulate Matter and Volatile Organic Compound Control

The mist eliminator for control shall be in operation at all times when Cold Rolling Mill #16 is in operation.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.10 Record Keeping Requirements

(a) To document compliance with Condition D.3.6, the Permittee shall maintain records of the hours of operation of rolling mill #16. Records maintained shall be taken daily and shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.6.

(b) To document compliance with Condition D.3.1 (during the shakedown period only), the Permittee shall maintain records of the hours of operation of rolling mill #15, rolling mill #16, and the combined total. Records maintained shall be taken daily and shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.1.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.6 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
VIGO COUNTY AIR POLLUTION CONTROL

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Alcan Rolled Products
Source Address: 5901 North 13th Street, Terre Haute, Indiana 47805
Mailing Address: PO Box 1607, Terre Haute, Indiana 47808
Source Modification No.: 167-12146-00001

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
VIGO COUNTY AIR POLLUTION CONTROL

Part 70 Source Modification Quarterly Report

Source Name: Alcan Rolled Products
Source Address: 5901 North 13th Street, Terre Haute, Indiana 47805
Mailing Address: PO Box 1607, Terre Haute, Indiana 47808
Source Modification No.: 167-12146-00001
Facility: Rolling Mill #16
Parameter: Operating hours
Limit: Shall not exceed 8000 hours per 12 month period, rolled monthly

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality
and
Vigo County Air Pollution Control

Addendum to the
Technical Support Document for a Significant Source Modification

Source Name:	**Alcan Rolled Products**
Source Location:	**5901 North 13th Street, Terre Haute, Indiana 47805**
County:	**Vigo County**
SIC Code:	**3353**
Operation Permit No.:	**T167-5988-00001**
Operation Permit Issue Date:	**June 30, 1999**
Significant Source Mod No.:	**167-12146-00001**
Permit Reviewer:	**Rob Harmon - VCAPC**

On April 27, 2001, Vigo County Air Pollution Control (VCAPC) had a notice published in the Terre Haute Tribune Star, Terre Haute, Indiana, stating that Alcan Rolled Products had applied for a modification to its Part 70 Operating Permit to construct and operate a rebuilt Mill #16. The notice also stated that VCAPC and OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On May 25, 2001, Alcan Rolled Products submitted comments on the proposed Part 70 permit modification. The summary of the comments is as follows (organized by the document being addressed):

Significant Source Modification #1 Document Comments:

Comment 1:
Page 37a of 42, Section D.3, **Facility Description** – We request that the first word of the description "Cold" be removed so that the mill is identified just as "Rolling Mill #16", in an effort to be consistent with the description of the other mills at the facility.

Response to Comment 1:
The descriptive information was changed as follows:

~~Cold~~ Rolling mill #16 (being reactivated and modified after an extended shutdown), with a maximum capacity of 52,000 pounds of aluminum sheet per hour (capable of doubling operations), using a mist eliminator for control, and exhausting to stack 003.

This change will also be carried through to other related documents with the same descriptive information.

Comment 2:
Page 37a of 42, Section D.3.1, **Net Emission Reduction** states, "Mill #15 must be permanently removed from service (prior to full time operation of Mill #16) in order to provide necessary emission credits to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. The full time operation does not include a shakedown period for the new unit. This shakedown period shall not exceed six (6) months. During this shakedown period Mill #15 and Mill #16 shall not operate more than a combined 24 hours per day. This limitation is needed because Alcan is relying on the emission reduction from Mill #15 in order to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. This limitation effectively limits the total emissions because the new Mill #16 is larger than the old Mill #15."

We request to change the sentence, "During this shakedown period Mill #15 and Mill #16 shall not operate more than a combined ~~24 hours per day~~ 168 hours per week starting on the day of start-up of Mill #16."

Response to Comment 2:
This change will allow for more operational flexibility for Alcan Rolled Products, without undermining the intent of the requirement itself. However, there may be confusion generated if the term "start-up" is utilized when in fact the appropriate time period is the shakedown period. In order to avoid that potential problem slightly different language will be used. Condition D.3.1 has been changed as follows:

Mill #15 must be permanently removed from service (prior to full time operation of Mill #16) in order to provide necessary emission credits to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. The full time operation does not include a shakedown period for the new unit. This shakedown period shall not exceed six (6) months. During this shakedown period Mill #15 and Mill #16 shall not operate more than a combined ~~24 hours per day~~ 168 hours per week (starting on the first day of the shakedown period). This limitation is needed because Alcan is relying on the emission reduction from Mill #15 in order to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. This limitation effectively limits the total emissions because the new Mill #16 is larger than the old Mill #15.

Comment 3:
Page 37a of 42, Section D.3.4 **Particulate Matter (PM and PM10)**, states,"

The PM emissions shall not exceed ~~1.52~~ 25.2 tons per year.

The PM10 emissions (including both filterable and condensible particulate matter (PM10)) shall not exceed ~~9.78~~ 19.2 tons per year."

The emissions listed are not the correct potential to emit that was listed in the calculation spreadsheet. Therefore, we request that the emissions data be corrected to the numbers listed above.

Response to Comment 3:
The limitations were incorrectly transferred into the permit, and need to be updated accordingly. However, the revised calculations that Alcan provided do not appear to be appropriate either. Alcan's submission added the numbers that had been previously determined for PM and PM10 together to create a revised PM number. This may have been a result of the calculations showing PM being lower than PM10. In this case that rather odd situation may in fact be accurate. The limitations, as demonstrated by the appropriate test methods, for PM reflect primarily the filterable particulate matter (less than 100 microns). The PM10 limitations, again as demonstrated by the test methods, include both the filterable and condensible particulate matter (less than 10 microns). The PM10 evaluation can therefore exceed the PM numbers in any case where the considensible fraction is significant. A rolling mill utilizing oil for cooling/lubrication would be expected to fall into that category.

As a result of this evaluation, the limitations contained in Condition D.3.4 are being revised. But, they are being changed to the limitations that are demonstrated in the original set of calculations, not the revised set proposed by Alcan. The condition now appears as:

The PM emissions shall not exceed 6.0 ~~1.52~~ tons per year.

The PM10 emissions (including both filterable and condensible particulate matter (PM10)) shall not exceed 19.2 ~~9.78~~ tons per year.

Comment 4:
Page 37a of 42, Section D.3.5, **VOC Emissions** states, " Pursuant to 326 IAC 8-1-6, this facility shall install and operate BACT for VOC emissions. In this case BACT has been determined to be a combination of utilizing a low volatility oil (Norpar 13 or equivalent) and a control device (mist eliminator - controlling VOC mist emissions (down to 1 micron) by 75%)."

We request that the last sentence be changed to the following to be consistent with wording and to more accurately characterize the emissions, "device (mist eliminator - controlling **droplet phase** VOC mist **(PM)** emissions (down to 1 micron) by 75%)."

Response to Comment 4:
This clarification seems to be beneficial. It has been changed as requested.

Comment 5:
Page 37b of 42, Section D.3.8, **Testing Requirements** states, "The Permittee shall perform PM, PM-10, and VOC testing on the Mist Elimination system outlet, utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A and 202 (40 CFR 51, Appendix M) for PM-10, or other methods as approved by the Commissioner. The Permittee shall also perform droplet phase VOC testing on both the inlet and outlet of the mist eliminator. The testing shall be completed within sixty (60) days of achieving maximum production rates, but not more than one hundred eighty (180) days after initial operation. The PM10 and total VOC testing is not intended for compliance purposes, it is to verify the accuracy of the emission estimates upon which this approval was based. Therefore, the test does not have to be repeated every five years. PM-10 includes filterable and condensible PM-10. The droplet VOC collection efficiency is a requirement of the BACT determination and it must be completed at least once every 5 years. In addition to these requirements, IDEM and VCAPC may require compliance testing when necessary to determine if the emissions unit is in compliance."

We request that the droplet phase VOC emissions description in sentences 2 and 7 be further clarified to state "droplet phase VOC (PM) emissions".

Response to Comment 5:
This clarification seems to be beneficial. It has been changed as requested.

Comment 6:
On Page 37b of 42, Section D.3.10, **Record Keeping Requirements**, We request to add the bold wording (listed below) to this condition to coincide with our request listed in #2 above:

(a) To document compliance with Condition D.3.6, the Permittee shall maintain records of the hours of operation of rolling mill #16. Records maintained shall be taken daily and **compiled weekly and** shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.6.

(b) To document compliance with Condition D.3.1 (during the shakedown period only), the Permittee shall maintain records of the **weekly** hours of operation of rolling mill #15, rolling mill #16, and the combined total. Records maintained shall be taken daily and **compiled weekly and** shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.1. "

Response to Comment 6:
The time frames for compiling data should match up with the requirements. In the case of Condition D.3.1 (which is covered by D.3.10(b)), weekly would be the most appropriate term to use. However, the requirements under Condition D.3.6 (which is covered by D.3.10(a)) specify monthly information. Therefore, Condition D.3.10 has been modified as follows:

(a) To document compliance with Condition D.3.6, the Permittee shall maintain records of the hours of operation of rolling mill #16. Records maintained shall be taken daily and compiled monthly and shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.6.

(b) To document compliance with Condition D.3.1 (during the shakedown period only), the Permittee shall maintain records of the weekly hours of operation of rolling mill #15, rolling mill #16, and the combined total. Records maintained shall be taken daily and complied weekly and shall be complete and sufficient to establish compliance with the operating time limitation established in Condition D.3.1.

Significant Source Modification #1 Document – Appendix A Emission Calculations Comments

Comment 7:
A review of the previously submitted emission calculations revealed that the particulate matter (PM) emissions did not reflect total PM emissions and excluded emissions less than 10 microns. Please find attached a copy of the revised emissions estimates (presented in bold) that reflect PM emissions as total PM and not PM>10 microns.

Response to Comment 7:
Please refer to “Response to Comment 3" for a detailed explanation of the determination regarding the calculations.

Significant Source Modification #1 Document – Appendix B Best Available Technology (BACT) Review Comments

Comment 8:
On page 1, the Section entitled VOC BACT Review, paragraph 1, the last sentence states, “The emission rate is dependant on several operating factors but especially the amount of pressure being applied in order to achieve the desired reduction in thickness.”, we request that this sentence be removed, as it is not relevant and not entirely accurate.

We request that the bolded wording (included below) be added to page 3, the Section entitled Absorption (Heavy Oil Scrubber), the 5th sentence, “ This control option was found in one other case (Consolidated Aluminum Corporation), **and was determined to be the technology that can achieve the Lowest Achieveable Emission Rate (LAER). However,** in this case it is determined to not be economically feasible.”

Response to Comment 8:
The comment really had no bearing on the review. Determination of technically feasible control options is expected to contain information from any program (RACT / BACT / LAER / NSPS / NESHAP). However, since this was a BACT review, instead of LAER, the economics could be included in the review. The control was determined to no be economically feasible, and that is clearly documented already. Therefore, the language was not modified.

Comment 9:
On page 4, Section entitled Conclusion, we request to add the following clarifications to Conclusions 3 and 4:

Conclusion 3. Conclusion 3. states, “Use of state of the art equipment to maximize the *Transfer Efficiency* of the lubricant. This is another way to reduce the amount of emissions being generated by maximizing the effectiveness of the oil that is applied.” We would like to clarify that “state of the art equipment” is as installed and that we are not required to continually upgrade the equipment to coincide with future advances in technology.

Conclusion 4. Conclusion 4. States, “*Continued Engineering, Administrative, & Operating Controls* to maximize effectiveness of the oil and reduce the amount needed to be used.” We would like to clarify that Alcan currently operates it rolling mills as efficiently as possible and is continually reviewing the processes and operating procedures to look for ways to minimize the use of materials. As we currently use the Norpar oil as efficiently as possible to achieve the level of quality necessary for our products, there is no guarantee that we can reduce the amount of oil needed to be used. Therefore, we request that the last part of this statement be removed and the conclusion state, “Continued Engineering, Administrative, & Operating Controls to maximize effectiveness of the oil.”

Response to Comment 9:
Both of those issues can be clarified in this document, without opening Appendix B of the TSD. In the first case above the term “State of the Art Equipment” definitely does only apply to the current situation. It would be both impractical and punitive to expect a company to keep all of their equipment up to date with advances throughout their industry on a continual basis. Additionally, changes of that magnitude may very well require future permit review and could not be pre-approved with this approval. The second issue is also descriptive in nature. The understanding is that Alcan will strive to reduce the amount of oil needed, but in no way does it require them to be successful. Please remember, in both cases, that the BACT Review Document is only intended to explain how the permit requirements were developed. It is not independently enforceable. The conditions that were needed were transferred over into the D Section of the approval and are enforceable from that standpoint only.

Significant Source Modification #1 – Technical Support Document Comments

Comment 10:
On page 2, Section entitled Potential to Emit Modification Table, we request that the changes listed be made to reflect the appropriate PM emissions.

Pollutant	Potential To Emit (tons/year)
PM	~~26.3~~ **110.4**
PM-10	84.1
SO_2	neg
VOC	178.7
CO	neg
NO_x	neg

Response to Comment 10:
Please refer to “Response to Comment 3" above for a detailed explanation regarding this issue.

Comment 11:
On page 3, Section entitled Justification for Modification , we request that PM be added to the second sentence so that it reads, ”This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) since the potential to emit is above 25 tons per year of VOC, **PM**, and PM10.”

Response to Comment 11:
Please refer to “Response to Comment 3" above for a detailed explanation regarding this issue. With that in place the language is correct as it is written.

Comment 12:
We request that the table on page 4, Section entitled Potential to Emit of Modification After Issuance (Including Netting Analysis), be changed to the information below to reflect the revised emissions as mentioned in #2 above. A copy of the corrected Table is included below.

Process/facility	Potential to Emit (tons/year) PM	PM-10	VOC
Modification:			
Reactivation of Mill #16[1]	~~6.00~~ 25.20	19.20	163.20
Contemporaneous Increases*:			
Modification to Mill FP-1	~~0.77~~ 4.99	4.22	19.52
Addition of Remediation System			1.67
Contemporaneous Decreases**:			
Removal of Mill #15[2]	~~-1.82~~ -11.77	-9.96	-46.07
Material Change on Mill #20[3]			-228.22
NET Emission Increase	~~4.96~~ 18.42	13.46	-89.90
PSD Significant Thresholds	25	15	40
Significant ?	No	No	No

Response to Comment 12:
Please refer to “Response to Comment 3" above for a detailed explanation regarding this issue.

Second Administrative Modification Document Comments

Comment 13:
On page 5 of 42, Section A.2 (3), we request the same changes as listed in #1 above.

Response to Comment 13:
The change was made as requested and as addressed in Response to Comment 1: above.

Comment 14:
On page 37a of 42, Section D.3, we request the same changes as listed in #1 above.

Response to Comment 14:
The change was made as requested and as addressed in Response to Comment 1: above.

Comment 15:
On page 37a of 42, Section D.3.1, we request the same changes as listed in #2 above.

Response to Comment 15:
The change was made as requested and as addressed in Response to Comment 2: above.

Comment 16:
On page 37a of 42, Section D.3.4, we request the same changes as listed in #3 above.

Response to Comment 16:
Please refer to “Response to Comment 3" above for a detailed explanation regarding this issue.

Comment 17:
On page 37a of 42, Section D.3.5, we request the same changes as listed in #4 above.

Response to Comment 17:
Please refer to “Response to Comment 4" above for a detailed explanation regarding this issue.

Comment 18:
On page 37b of 42, Section D.3.8, we request the same changes as listed in #5 above.

Response to Comment 18:
Please refer to “Response to Comment 5" above for a detailed explanation regarding this issue.

Comment 19:
On page 37b of 42, Section D.3.10, we request the same changes as listed in #6 above.

Response to Comment 19:
Please refer to “Response to Comment 6" above for a detailed explanation regarding this issue.

Indiana Department of Environmental Management
Office of Air Quality
and
Vigo County Air Pollution Control

Technical Support Document (TSD) for a Part 70 Significant Source Modification.

Source Background and Description

Source Name:	**Alcan Rolled Products**
Source Location:	**5901 North 13th Street, Terre Haute, Indiana 47805**
County:	**Vigo County**
SIC Code:	**3353**
Operation Permit No.:	**T167-5988-00001**
Operation Permit Issuance Date:	**June 30, 1999**
Significant Source Modification No.:	**167-12146-00001**
Permit Reviewer:	**Rob Harmon - VCAPC**

The Office of Air Quality (OAQ) has reviewed a modification application from Alcan Rolled Products relating to the construction of the following emission units and pollution control devices:

(a) Cold rolling mill #16 (being reactivated and modified after an extended shutdown), with a maximum capacity of 52,000 pounds of aluminum sheet per hour (capable of doubling operations), using a mist eliminator for control, and exhausting to stack 003.

History

On November 30, 2000, Alcan Rolled Products submitted a significantly amended application (from the initial submittal on March 28, 2000) to the OAQ and VCAPC requesting to reactivate and modify rolling mill #16 in their existing plant. This approval is being reviewed as if a new piece of equipment is being installed. There are 2 main reasons for this method. First, the unit has been shut down since 1992 (an extended period of time). Second, they have not requested a simple reactivation, they will also be modifying the equipment to process wider coils and will therefore be utilizing a larger amount of rolling oil. Alcan Rolled Products was issued a Part 70 permit on June 30, 1999.

Additionally, on March 29, 2001 Alcan Rolled Products applied for an Interim Construction Approval for this construction project. This Interim Approval was issued on April 16, 2001 and became effective on April 17, 2001. The Interim Approval covers only construction, not operation. It will expire when this Source Modification is issued.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
003 (existing)	Rolling Mill #16	48	3.25	35,000	90EF

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 30, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Pages 1 through 2)

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls of Mill #16 at 52,000 pounds per hour. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	26.3
PM-10	84.1
SO_2	neg
VOC	178.7
CO	neg
NO_x	neg

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) since the potential to emit is above 25 tons per year of VOC and PM10. Significant Source Modification 167-12146 is the approval to construct and Administrative Amendment 167-13860 is the approval to operate. In this case the AA must undergo review by US EPA Region 5 before it can be issued and will therefore be issued after the SSM.

County Attainment Status

The source is located in Vigo County.

Pollutant	Status
PM-10	attainment
SO_2	maintenance attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Vigo County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Vigo County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	less than 100
PM-10	less than 100
SO_2	less than 100
VOC	greater than 250
CO	less than 100
NOx	greater than 100, less than 250

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is **not** one of the 28 listed source categories.

(b) These emissions are based upon the existing Part 70 Permit (167-5988-00001, issued June 30, 1999).

Potential to Emit of Modification After Issuance (Including Netting Analysis)

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification. Additionally, all contemporaneous and creditable increases and decreases as itemized in the table. Any decrease that was not already enforceable in some fashion will have to be included as a condition of the issued approval in order to be considered creditable. More detailed emission calculations are in Appendix A.

	Potential to Emit (tons/year)		
Process/facility	PM	PM-10	VOC
Modification:			
Reactivation of Mill #16[1]	6.00	19.20	163.20
Contemporaneous Increases*:			

Modification to Mill FP-1	0.77	4.22	19.52
Addition of Remediation System			1.67
Contemporaneous Decreases**:			
Removal of Mill #15[2]	-1.82	-9.96	-46.07
Material Change on Mill #20[3]			-228.22
NET Emission Increase	4.96	13.46	-89.90
PSD Significant Thresholds	25	15	40
Significant ?	No	No	No

[1] Mist Elimination System required to be in place and operational at all times the unit is operating. This will be a condition within this approval. Also Alcan has specifically requested a operating hours limitation of 8000 hours per year (incorporated as a 12-month total, rolled monthly). This limitation will also be addressed specifically in the approval.
[2] The removal of Mill #15 will be made enforceable as part of this approval.
[3] The raw material change from mineral spirits to Norpar 13 for the doubling process on Mill #20 will be made enforceable as part of this approval.

* The approval allowing for the modification to FP-1 was issued December 15, 1998.
The remediation system was started on December 22, 1999.

** The material change on Mill #20 will occur before any operation of the rebuilt mill. Mill #15 must be removed from service prior to full time operation of Mill #16 begins. The full time operation does not include a shakedown period for the new unit. This shakedown period shall not exceed six (6) months. During this shakedown period Mill #15 and Mill #16 shall not operate more than a combined 24 hours per day. This limitation is needed because Alcan is relying on the emission reduction from Mill #15 in order to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply. The supporting calculations demonstrating the netting calculations are contained in Appendix A.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 Particulate Emission Limitations

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from Mill #16 shall not exceed 36.4 pounds per hour.

The pounds per hour limitation was calculated using a process weight rate of 52,000 pounds per hour and the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where **E** = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

326 IAC 8-1-6 VOC General Reduction Requirements

This modification is subject to the requirements of 326 IAC 8-1-6 because the net emissions are greater than the 25 ton per year threshold. Therefore the emission unit must apply BACT. In this case BACT has been determined to be a combination of utilizing a low volatility oil (Norpar 13 or equivalent) and a control device (mist eliminator - controlling VOC mist emissions (down to 1 micron) by 75%).

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No.167-12146-00001.

Appendix A: Emission Calculations

Alcan Aluminum Corporation
5901 North 13th Street, Terre Haute, Indiana 47805
Sig Source Mod: 167-12146-00001
Reviewed By: Rob Harmon
Application Received: November 30, 2000*

Emissions from the Proposed Project:

This project consists of rebuilding and restarting Mill #16, that has been idle for a considerable period of time and is being reviewed as a new emission unit for that reason.

Background testing was performed on a similar mill (#20) on site to provide emission rate estimates for the restarted mill. The results of those tests are summarized below.

31 lbs/hr VOC emissions from use of Norpar 13 on the mill
3 lbs/hr VOC emissions from use of Norpar 13 for doubling on the mill
34 lbs/hr VOC emissions from mill #20 total
5 lbs/hr PM emissions from mill #20 total
16 lbs/hr PM10 emissions from mill #20 total

The capacity of mill #20 is approximately 20% lower than the rebuilt mill #16 will be. Therefore, the emission rates need to be scaled up accordingly.

Mill #16 emission rates

	PM	PM10	VOC	
Pounds per hour rates	6.00	19.20	40.80	lbs/hour (calculated as 20% higher than #20)
PTE before control tons per yea	26.3	84.1	178.7	ton/year (calculated at 8760 hours per year)
PTE after control tons per year*	6.0	19.2	163.2	ton/year (calculated at 8000 hours per year)
PSD Significant Mod. Threshold	25	15	40	For existing major sources with regard to PSD
Significant	No	Yes**	Yes**	

* - control equipment estimated to be 75% effective at removing PM and PM10 (also includes 8000 hour limit)
** - since VOC and PM10 are above the PSD significant threshold the project would be subject to review unless they can net out or find some other way to reduce emissions

Contemporaneous Emissions Changes

Emission increases from modification of FP-1
Since the permit authorizing this modification was issued December 15, 1998, there has not been sufficient time for it to establish a past actual emission rate. Therefore, the potential emission increases due to the modification are being utilized for the past estimate.

	PM	PM10	VOC	
FP-1 Modification	0.77	4.22	19.52	ton/year

Emission increases from remediation system
Again, this operation has not established past actual remission rates.

	VOC	
Remediation System	1.67	ton/year

Emission reduction from the removal of Mill #15 from production
This will have to be an enforceable condition of the source modification. Since the mill was in operation the past actual emissions can be estimated by averaging the 2 previous years emission rates. The emissions were supplied by Alcan in the application, but were also reported on the Emission Statement for each year.

	PM	PM10	VOC	
Mill #15 1998 emission rate	1.29	7.06	32.66	ton/year 1998

Mill #15 1999 emission rate	2.34	12.85	59.48	ton/year 1999
Average	1.82	9.96	46.07	ton/year (creditable average)

Emission reduction from switching from mineral spirits to Norpar 13 on Mill #20
The historical process for the "doubling" operation involved the use of mineral spirits between the 2 coils being processed. By switching to the less volatile Norpar 13 a significant reduction in actual emissions will take place. Of course this reduction will also have to be made enforceable as part of the approval. Additionally, there will still be some emissions from the Norpar 13, so the credit will be analyzed from a past actual to future potential viewpoint for the doubling process.

Future potential:

3	lbs/hr VOC emissions from use of Norpar 13 for doubling on the mill
13.14	tons per year VOC emissions from doubling utilizing Norpar 13 (at 8760 hours/year)

Past actual:

158	tons per year VOC from mineral spirits in Mill #20 during 1998
324.72	tons per year VOC from mineral spirits in Mill #20 during 1999
241.36	average tons per year VOC reduced

Net reduction from the change:		VOC	
Past Actual - Future Potential =		228.22	ton/year (creditable average)

Netting Calculations:

	PM	PM10	VOC	
Modification:				
Reactivation of Mill #16	6.00	19.20	163.20	Incorporates limitations
Contemporaneous Increases:				
Mod. to FP-1	0.77	4.22	19.52	
Remediation System			1.67	
Contemporaneous Decreases:				
Removal of Mill #15	1.82	9.96	46.07	
Material change on Mill #20			228.22	
Total Net Emissions Increase:	4.96	13.46	-89.90	
PSD Significant Mod. Threshold	25	15	40	For existing major sources with regard to PSD
Significant	No	No	No	

Appendix B

Best Available Control Technology (BACT) Review

Source Name:	Alcan Rolled Products
Source Location:	5901 North 13th Street, Terre Haute, Indiana 47803
County:	Vigo County
Approval Number:	SSM 167-12146-00001
SIC Code:	3353
Permit Reviewer:	Rob Harmon - VCAPC

The Office of Air Quality (OAQ) and Vigo County Air Pollution Control (VCAPC) have performed the following Best Available Control Technology (BACT) review for the proposed reconstucted aluminum rolling mill to be owned and operated by Alcan Rolled Products. The review was performed on cold rolling mill #16.

The source is located in Vigo County. This emission unit is subject to a BACT review because the potential emissions of VOC are above the threshold established in 326 IAC 8-1-6. BACT is an emission limitation based on the maximum degree of reduction for each pollutant subject to regulation under the various rules. In accordance with the "Top-Down" analysis for BACT, with guidance set forth in the USEPA draft New Source Review Workshop Manuel, the BACT analysis takes into account the energy, environment, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. These reductions are needed to demonstrate that the remaining emissions after BACT implementation will not cause or contribute to significant air pollution; thereby, protecting public health and the environment.

In this case there is only one emission unit undergoing BACT analysis. The review is only for VOC emissions because that is what triggered 326 IAC 8-1-6 review to begin with. Mill #16 is being rebuilt in order to expand its prior operating capabilities. It has been shut down for an extended period of time, and is therefore being reviewed as if it were a new emission unit. This mill will have a capacity of 52,000 pounds of aluminum per hour and is designed to also be able to feed 2 rolls at the same time. This type of operation is referred to as "doubling" and it produces a different texture on each side of the processed aluminum.

VOC BACT Review

Volatile Organic Compound (VOC) emissions from cold rolling mills are primarily a function of the violent mechanical nature of the process. The rolling oil is applied to the metal in order to maintain a constant temperature and prevent deformation or discoloration during the process. When the coated metal is fed through the rollers and reduced in thickness some of the oil is volatilized into either gaseous VOC or mist. Some of the mist is inherently captured in the process equipment and recycled back for further use, but some escapes and is emitted to the atmosphere. The emission rate is dependant on several operating factors but especially the amount of pressure being applied in order to achieve the desired reduction in thickness.

Control Options Evaluated - The following control options and raw material changes were evaluated in the BACT review.

Absorption
Condensation
Adsorption
Catalytic Thermal Oxidation
Regenerative Thermal oxidation

Recuperative Thermal Oxidation
Flaring
Substitute Materials
Transfer Efficiency
Engineering, Administrative and Operating Controls

Technically Infeasible Control Options - The following control methods were determined to be technically infeasible in this case:

Condensation was determined to be technically infeasible. This determination is based on the expected concentration of VOC in the outlet stream. Condensation is most effective when the outlet concentration above 5000 ppm. The expected concentration is below 100 ppm, which is too low for a reasonable control efficiency.

Adsorption was determined to be technically infeasible. This determination is based on the temperatures that would have to be involved. Norpar (the rolling fluid) has a boiling point (which would have to be reached in order to regenerate the carbon bed) of 437EF. However, the carbon bed has the potential to ignite at temperatures above 350EF.

Catalytic Thermal Oxidation was determined to be technically infeasible. This determination is based on the properties of the gas stream to be treated. The oil mist in the stream would cause the catalyst material to become "fouled" and inoperative.

Regenerative Thermal Oxidation was determined to be technically infeasible. This determination is based on the inlet temperature requirements for this type of incineration. The inlet side ("cold face") of the oxidizer must be at a temperature greater than the boiling point of the VOC material to be combusted. In this case the boiling point of Norpar is 437EF. Additionally, due to design considerations this type of oxidation has a maximum "cold face" temperature of 250EF, which is well below the boiling point in question.

Flaring was determined to be technically infeasible as well. This determination is based on the properties of the gas stream. With a low concentration of VOC to be disposed of (less than 100 ppm expected) as well as the presence of oil mist it would be very difficult to maintain the combustion flame.

Ranking of Technically Feasible Control Options - The following technically feasible VOC control options are ranked by control efficiency:

BACT Option	Post-BACT Emission Rate (tons per year)	Emission Reduction (tons per year)	Overall System Control Efficiency (%)
Recuperative Thermal Oxidation	24 tpy	140 tpy	85.5%
Absorption	38.4 tpy	125 tpy	76.5%

Discussion - The following discussion addresses each of the remaining control technologies in more depth.

Recuperative Thermal Oxidation: In this control technology option, the specific impact of the aerosol mist entering the system is not known. The vendor indicated to Alcan that some mist removal prior to combustion may be required in order to prevent "fouling" of the unit. Even without considering the mist elimination, the cost effectiveness was calculated to be $8,788 per ton removed. Since this option was not found to be implemented anywhere else, and since the cost per ton is so high this control option was deemed to not be economically feasible.

Absorption (Heavy Oil Scrubber): This control technology is most often utilized when the inlet concentration to the control equipment is between 250 and 1000 ppm. In this case an inlet concentration of less than 100 ppm makes the equipment less efficient and therefore less cost effective than it could otherwise be. This equipment may also need inlet gas stream treatment, but that was not factored into the cost effectiveness calculations. The cost effectiveness was determined to be $6,263 per ton removed. This control option was found in one other case (Consolidated Aluminum Corporation), but in this case it is determined to not be economically feasible.

Other: Alcan presented 4 other cases where previous BACT or other determinations involved the substitution of materials in addition to some kind of mist elimiation system. One of those cases is actually on this plant site where Mill FP-1 was determined to have applied BACT by using Norpar 15 as the rolling fluid and incorporating a mist elimination system that was at least 72% efficient at removing droplet phase VOC emissions.

Existing BACT Emission Limitations - The following is a table listing existing BACT or other determinations regarding controls and similar processes to the Rolling Mill in question.

Source	Affected Facility	BACT Determination	Reference
Consolidated Aluminum Corporation	Cold Mill	Achenback Air Pure System or Equivalent (Heavy oil Scrubber)	NSR/RBLC
Martin Marietta of Kentucky	Rolling Mill	Mist Eliminator to control PM	NSR/RBLC
J. W. Aluminum	Aluminim Rolling Mill	Lubricant Substitution: use of normal paraffin and demisters to recover rolling oil	NSR/RBLC
Alcan Aluminum Corporation	FP-1 Rolling Mill 003	State BACT - Munters Euroform Mist Eliminator or Equivalent and use of Norpar 15 Rolling Oil or Equivalent	State Title V Permit (USEPA Region 5 Permits Online)
McCook Metals	Cold Rolling Mill No. 7	State Operating Permit - Use of Mist Eliminator	State Title V Permit (USEPA Region 5 Permits Online)

The table above lists control equipment that has been required on similar operations (Aluminum Rolling Mills). Most of the demonstrated equipment involves raw material substitution and some form of mist elimination.

Conclusion - Based on all the information provided above, BACT for VOC emissions from Rolling Mill #16 should be considered as the combination of the following:

1. Use of a *Mist Elimination System* which will control the particulate/VOC mist down to 1 micron by at least 75%.
2. Use of an *Alternate Raw Material (Norpar 13)* which will reduce the amount of emissions which are even generated to start with, before any control is placed into effect.
3. Use of state of the art equipment to maximize the *Transfer Efficiency* of the lubricant. This is another way to reduce the amount of emissions being generated by maximizing the effectiveness of the oil that is applied.
4. Continued *Engineering, Administrative, & Operating Controls* to maximize effectiveness of the oil and reduce the amount needed to be used.